INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/007114

A. CL	ASSIFIC/	MOIT	OF SUB	JECT N	IATTER

Int.Cl⁷ H01L21/02, H01L21/3065, H01L21/205, F16L23/04, F16L25/02, F16L53/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H01L21/02, H01L21/3065, H01L21/205, F16L23/04, F16L25/02, F16L53/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922–1996 Jitsuyo Shinan Toroku Koho 1996–2004
Kokai Jitsuyo Shinan Koho 1971–2004 Toroku Jitsuyo Shinan Koho 1994–2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Α .	JP 2003-124202 A (Mitsubishi Electric Corp.), 25 April, 2003 (25.04.03), Full text; Figs. 1 to 17 (Family: none)	1-13
A .	JP 2002-305150 A (Hitachi Kokusai Electric Inc.), 18 October, 2002 (18.10.02), Full text; Figs. 1, 9 (Family: none)	1-13
Α .	US 5294280 A (TOKYO ELECTRON LTD.), 15 March, 1994 (15.03.94), Full text; Figs. 1 to 8 & JP 5-13345 A full text; Figs. 1 to 3	1-13
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	Further documents are listed in the continuation of Box C.		See patent family annex.	
* "A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
"L"	filing date		document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed		"Y" "&"	considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	
Date of the actual completion of the international search		Date of mailing of the international search report		
	17 August, 2004 (17.08.04)		31 August, 2004 (31.08.04)	
Name and mailing address of the ISA/ Japanese Patent Office		Authorized officer		
Facsimile No.		Telephone No.		